

## THE CHANGING WILDLIFE OF KATHIAWAR

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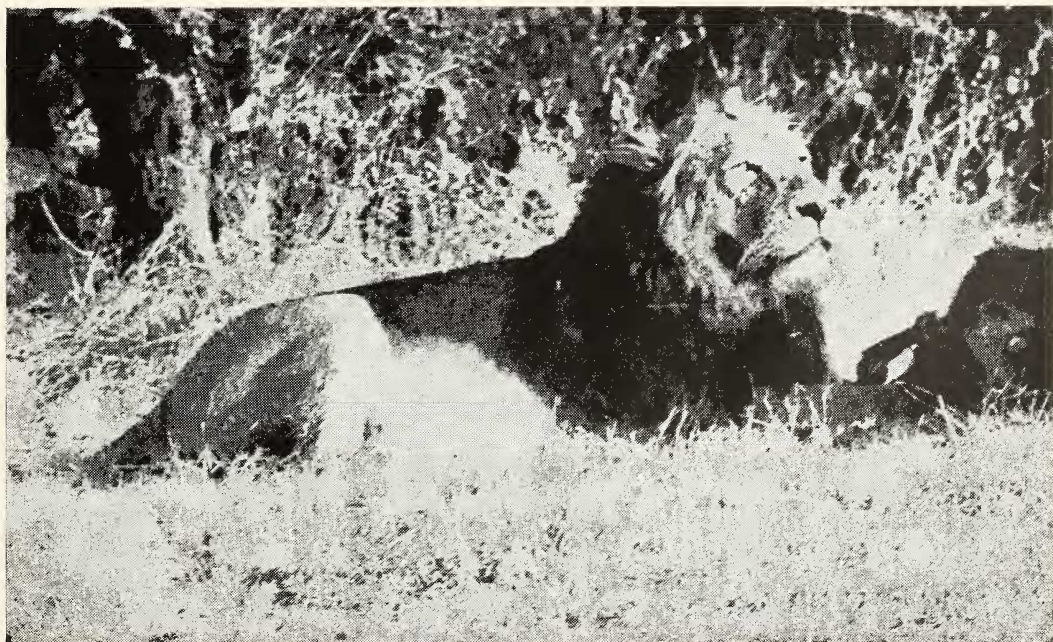
(With four plates)

In this Jubilee *Journal* I intend to review some of the changes I have seen in wildlife of Kathiawar since my early days and give importance to some of my reminiscences and interesting happenings I have noted in the past almost fifty years. Kathiawar in Western India was unique in having most of the peninsula under the rule of Princes of which the three largest states were, Junagadh, Nawanagar and Bhavnagar having territories of over 2800 sq. miles. The Baroda State had enclaves in Amreli and Okhamandal and many states had isolated villages scattered throughout Kathiawar. British India lands were also woven into this fabric of Princely states with the British Agent placed at Rajkot. Some of the states had their Military and separate Judiciary. I shall not go into details of administration but all Princes had the prerogative rights of hunting in their own states. These rulers maintained a Shikar department or staff, thus shikar (all type of hunting) was a part and parcel of the Princely Order in which the State Administrators (Dewans) normally did not interfere. Although most princes enjoyed shikar not all indulged in it. Nevertheless, wildlife, specially game species were jealously guarded, not always under legislation but under rules of game management. The unwritten code was that no animal life should be killed without permission of the ruler and that the game habitat should be totally protected even against cutting of roadside trees. The shikar-cum-forest departments existed in

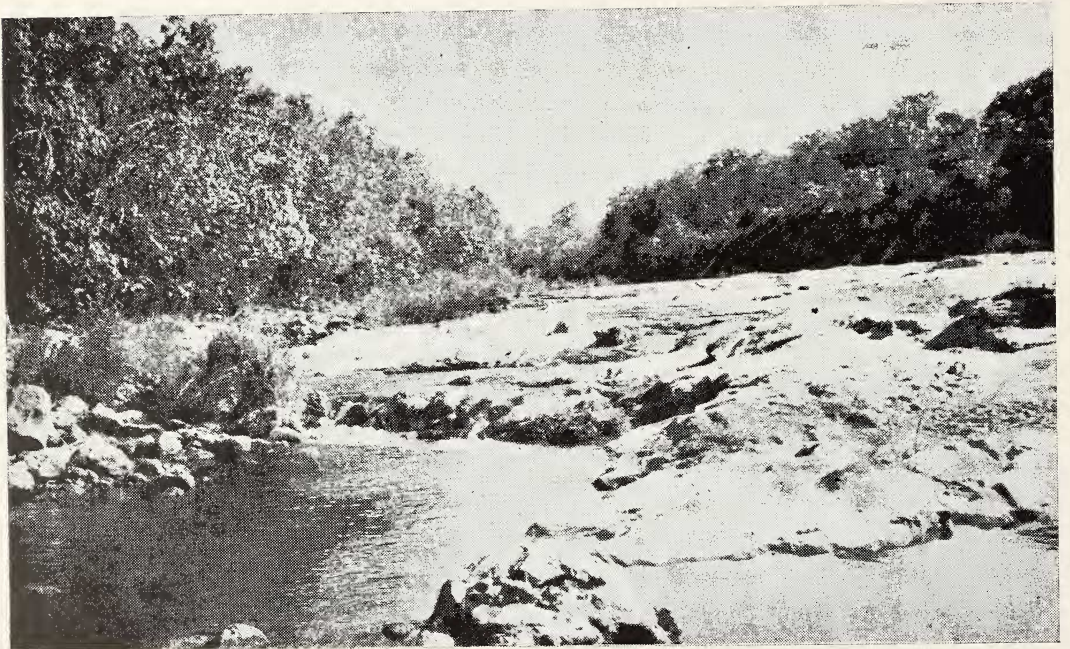
the larger states and since the Junagadh state had the largest forest in the Gir and Girnar, it commenced to employ a qualified retired Forest Officer and roads were made to exploit teak and miscellaneous dry deciduous and bamboo forests. But the main importance of the Gir was for the protection of the vanishing Asiatic lion, its prey and its habitat.

From 1928 to 1938 the position of wildlife in Kathiawar was of tremendous interest. In 1928 I had returned from England after schooling, in which country I knew more about British birds than those of India. The impact on me of seeing an immense number of birds and game animals in Kathiawar was tremendous and I started game shooting in earnest. Bird life in Kathiawar was abundant and more trusting than what I had seen in England and I was interested in identification. My early recollection of seeing the now extinct Grey Hornbill in Gir forest revealed to me the new type of bird life of India. My earliest sighting of the great Indian bustard was when a 'Vaghari', one of my late father's trappers, brought a bird during the monsoon for the Palace table. Even before my father's time this bird was considered a delicacy by many princes in India. I had enquired about the trapped bird and was told that it could not survive in captivity, but I think no attempt was made, and the bird found its way to the kitchen. Later when my brother became the ruler, he put a stop to the practice and no more bustards were snared thereafter. To me as a young boy large birds stood out conspicuously, and among these the Sarus Crane and the Bustard impressed

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*Above : Girnar (north aspect).  
Below : Asiatic Lion—Gir Forest. (Photos : Author)*



*Above* : Thorn Forest, Sihor Hills (almost pure *Acacia senegal*).  
*Below* : A stream in Gir Forest. (Photos : Author)

me most. The then Dhrangadhra Ruler had the largest and best preserve of the 'Ghorad' (great Indian bustard) and he had made rules to inflict heavy penalties on those who killed this bird. Many states had grasslands where this grand bird was found, infact it was found all over Kathiawar, except the Gir, Girnar, Barda and smaller hill forests. Large tracts of grasslands, some of it ideal savanna were seen in Okhamandal, Junagadh, Nawanagar, Bhavnagar, Jasdan, Wadhwan, Rajkot, Virpur, Bagasra, Bhadwas Wankaner, Morvi and smaller owners of "Vidis" (grasslands), also contained bustards at various times of the year.

In many of these areas during the monsoon season the lesser florican (*Khad-Mor*) was seen frequently but was unfortunately shot indiscriminately during the breeding season. The conspicuous pied males were the most shot.

The Princes of Kathiawar were a hospitable lot, and many were most generous and by and large, big and small rulers offered shikar whenever we visited them. At home, I had the singular advantage of learning more about game birds from the Fauna volumes by E. C. Stuart-Baker, and from listening to old shikaries including some of my father's contemporaries and from an Englishman who had been Vice-President of the Bhavnagar State Minority Administration Council, Mr. A. H. E. Mosse, who was a Sportsman who had not only shot big game in Somaliland, Africa, but also had considerable experience in India and was a noted Lepidopterist. When I identified the first Marbled Teal, a rather rare species of duck in Kathiawar in a Duck Bag, Mosse was surprised, and congratulated me and gave me encouragement. Since then I had always made it a point to examine all ducks shot. In those days, 1928 to 1938, there

were not many large tanks in Kathiawar and I recollect that the winters were colder and the hot weather more severe. The cold winters attracted huge masses of waterfowl and these were unmolested in the small village tanks until a few weeks in winter when duck shooting was in vogue, but most tanks were left untouched. In the well-known duck tanks, the ducks were abundant and Shoveller, Pintail, Pochard and Teal were conspicuous, Coots were almost in equal numbers, if not more, in the larger tanks. Most princes encouraged by Englishmen, indulged in organizing 'Duck Shoots'. The best shoots I have seen were those organized by Maharaja Raj Saheb Shri Ghanshyamsinhji of Dhrangadhra, who could tell every species on the wing and who was a jovial hospitable host. Maharaja Maharana Raj Saheb of Wankaner, Shri Amarsinhji, who had some of the best 'Jheels' for ducks arranged duck shoots on a grand scale. Both the States were in Jhalawar prant in N. E. Kathiawar.

A famous 'Jheel' nearer than Lakhtar for duck was Chandrelia where the real big shoots were organized. In earlier times Maharaja Ranjitsinhji, the Jam Saheb of Nawanagar the famous Indian Cricketer-Administrator organised duck-shoots in which early records of the Common Sheldrake, Greylag Geese and other birds were shot near Balambha on the northern Kathiawar border. I was a young boy of 12 when I shot my first duck, a shoveller drake in the duck shoots of January 31, 1929 at Wankaner, on the occasion of the marriage of the present Raj Saheb Shri Praptapsinhji of Wankaner. This day was the coldest day I have ever felt in Kathiawar. There was a layer of frost on the pool of the Palace when we went out for the duck shoot wrapped in woollens and overcoats. On the way to the duck jheels I saw a pair of great Indian

bustards. At this early age I clearly remember noting some of the duck in the duck bags. Most of these contained Common Teal, Garganey, Shoveller, Common, Tufted and White-Eyed Pochards, Gadwall, Wigeon, and Pintail. I also noticed a few pairs of Mallard, Comb duck and Redcrested Pochard, and realized later how rare the Comb duck was then. Although I did not notice then but Lesser Whistling Teal must have been shot too. Teal and Shoveller were doubtless the most common duck shot followed by Common Pochard.

As small game was so abundant in those days shooting days were many. Most of the shooting was done by organizing beats in which Partridges (Painted & Common Grey), and Hare were the main species shot with a sprinkling of Quails. Sandgrouse was not shot at the waterside but by walking up. No small game was shot from a car. In fact, migratory crane which were seen on the roadside while driving were left untouched as the guns were still in their cases. Walking up cranes is not easy and flight shooting of cranes had not begun, until the fifties, so the cranes had an easy time. Occasionally an Englishman shot the Thick-knee or the Goggle-Eyed Plover for the table. Green Pigeon in South and East Kathiawar where the birds were found, were occasionally shot for the table. In the early thirties I once remember seeing Greylag Geese at Bhavnagar, but these birds could not have been so rare as they are mentioned in the old Kathiawar Gazetteer as being found in the *Gheds*, a type of lagoons in S.W. coastal area: on the Little Rann of Kutch geese have been shot. Snipe shooting was common in some states specially to please the English sportsmen and even birds such as the Painted Snipe (which is really a rail) and the diminutive Jack Snipe were also shot. Large bags of

snipe were never made and ten or twenty couple was considered a good bag, with two or three guns. As there was so much scrub and brush cover for small game in fallow land, the need to shoot in 'Wadis' (irrigated farms) was not necessary. Therefore, the countryside was full of small game. Most of the beaters were trained to pick up fallen and wounded game and gun dogs were seldom used. Col. D. S. Bedi, who was District Magistrate at Rajkot always used dogs and was a keen falconer. Later my brother always used gun-dogs. Generally all small game shoots commenced at dawn and ended before breakfast and sometimes before lunch. Whereas, duck shoots started just before or after breakfast. Some of these grand shoots went on the whole day and for days, with breakfast, lunch and tea being served in the butts or at a 'rendezvous' site. When tanks were placed far from each other, ducks returned to them regularly during the shoot. As there were so many ducks in the larger tanks, they got used to gunfire and were reluctant to rise. The cease fire bugle was sounded when most ducks had departed or were flying too high and blown again when the shooting was allowed after most ducks had realighted. When I look back at these duck shoots I feel that they were really a great slaughter in which the birds had no chance of escape except by keeping out of shot range high in the air. When birds did not take wing in the middle of a tank, boats were sent out to flush them. Notwithstanding these, I would not have recognised so easily the ducks in the hand or in flight, but for the duck shoots. Field Guides to Birdwatching had not been invented. In fact most of the so-called birdwatching was in quest of game shooting, in which the shikaries were experts. I learnt to see the squatting hare or Partridge in cover with the help of shikaries and *vagha-*

ries. Later this ability was useful to us when coursing hare with Australian and English greyhounds. From the 1930s onwards I witnessed the best shikar period in Kathiawar and game species seemed abundant and inexhaustible. It was an age of sport in which, Cheeta hunting, Caracal hunting, Falconry, Fox hunting with hounds plus long dogs, Pig-sticking, and game shooting was indulged in. There was never a case of not bagging what one wanted. Blackbuck, Chinkara, Nilgai and Wild Boar were abundantly scattered all over the peninsula and the ubiquitous *Opuntia* and *Euphorbia* (Cacti) afforded ideal cover to small game and even to the wild boar, panther and lion. Pig-sticking was indulged in by Princes and cavalry officers in which I have seen the best of sport. Capt. Ravubha B. Gohel, winner of the Salmon Cup from the Bhavnagar Lancers was as good as any. My brother, (Krishnakumarsinhji) used the spear with great courage and accuracy and he had mastered killing the boar with one spear in the heart, a technique which required great skill. He organized a Zulu Spear Hunt by getting the lancers to surround a sounder of wild pigs and spearing them on foot in which he himself participated. On another occasion when a large 35" high boar was unyielding to beaters in a sugar cane brake, he dismounted and speared him on foot inside the brake and luckily escaped being gored. The boar was flushed and speared soon after. The Nawanagar and Jasdan Princes also did pig-sticking. Kumar Shri Jiva Khacher of Jasdan being known for his elan in this sport.

Amongst the larger states, Junagadh, perhaps, had the largest number of wild boar in the Gir hills, and boar were abundant on the outskirts of the Gir and Girnar hills. At Mahuva, (Bhavnagar State) I remember seeing sounders of over 500, the master boars gnash-

ing their tusks with foaming mouths and red-shot eyes, raising their crest and displaying side whiskers aggressively when approached. There were at least 2000 to 4000 wild boar in the Coconut-cum-Mango plantation at Ranbag (Mahuva). These animals were a serious cause of grievance to farmers whose crops they ravaged. The Dewan had to intervene and request the ruler to mitigate this evil by reducing their numbers. At one or more occasions, the Military were called to slaughter them, but later owing to the inadequacy of the men and type of arms used, the control measures were taken over by members of our family and friends. I joined these summer parties in which beats were arranged during which animals were shot and speared. Gunning the pigs when resting during day time was also done as was the practice in the Victoria Park, Bhavnagar when pigs were overabundant. Most of the wild boar took refuge in Babul thickets and *Opuntia* hedges. At Dholera, pigs in flat country were found in marshy seacoast as well as in the *Opuntia* clumps whereas in the scrub hills the *Euphorbia* cacti and ravines harboured the most. In Junagadh State, and parts of Barda Hills, the muslim forest guards did not eat pig flesh and so the wild boar increased in huge numbers. In the Hindu States, the Nilgai, was a great nuisance to farmers, as the people considered it a cattle-species and hence it was seldom killed. Nilgai was overabundant in many states and it afforded sport when shooting in the hills or scrubs. In both these species control measures were wholly inadequate to suit farmers. I often shot wild boar from horseback and from motor car, less often nilgai which I liked to stalk. It was not a difficult animal to bag if you knew where to place the first shot, the neck or shoulder but gave considerable trouble once wounded. A buffy-white Nilgai bull was shot by the Tha-

kore saheb of Palitana.

Of Blackbuck, Bhavnagar and Nawanagar had the largest herds. Junagadh had large herds near Veraval. In fact, this antelope was found in most States. During the rule of Jam Ranjitsinhji, Blackbuck and Chinkara were abundant. In the Nawanagar, Baradi sector, and in the Baroda Okhamandal, large concentrations of Blackbuck were seen. Small enclaves such as Atkot near Jasdan, one saw small herds of antelope because of Ranji's strict game preservation. The Bhal area, part of it Bhavnagar state, had huge herds of blackbuck and one could see them in thousands. This part had the richest grassland in kathiawar where great Indian bustards and florican bred regularly. There were many such but smaller areas in kathiawar. The largest blackbuck head of 29" length was shot in Morvi, whereas, quite a number of 27 and 28 inchers have been measured from Bhavnagar and Datha areas. These horn lengths are good as any in India.

When we were guests of the Nawab Mohabatkhanji of Junagadh, the Dewan took us by special train to Veraval. During the journey the instructions to the Guard was to stop the train when herds of blackbuck were seen close to the line so that my brother could fire from the Royal saloon. This shows how undisturbed the antelope were. I saw much of antelope and gazelle in the states of Junagadh, Nawanagar, Bhavnagar, Virpur, Jasdan, Dhrol, Lakhtar, Limbdi, Wankaner, Morvi and even in Mangrol. Very few were seen in Gondal state whose wise ruler (Maharaja Bhagwatsinhji) did not tolerate any damage to crops by game animals and owing to the state's rich cotton soil the farmers prospered, and were not hampered by damage of crops by game species. British territory contained game but in less quantity as roving officers shot game regularly and had no shikar staff. Mangrol-on-

the Sea had a fine coastal forest of *Euphorbia* in which small game and panther were found and in the forties even lions strayed into it. So large were the *Euphorbia* clumps that 'machans' could be built in the centre, from which I have watched panthers at the kill. This jungle was known as the 'Qada', some of it, extended into the golf links in which Chinkara bedded, and spoilt some of the 'Browns'. The Sheikh of Mangrol, Abdul Khaliq, was a keen wild life preserver, and he even introduced the Red Spur Fowl in the 'Qada'. The birds did quite well there. He was also a keen falconer and I often took our team of hawks to compete with his: The climate on the Bhader river is peculiar in having morning mists on warm winter days, but soon after, the weather becomes quite cool and we found our hawks in better fettle during these days.

In the thirties, Marsh Crocodiles *Crocodylus palustris* were to be seen in most tanks and rivers of kathiawar in which they regularly bred. All tanks contained many kinds of fish and species such as Mahseer, Murrel, Mullet and carps were also seen in rivers and streams and afforded good fishing. In the estuaries the Sea Perch (*Lates calcarifer*) and Rawas or Indian Salmon gave anglers good sport. At Jasdan, I first came across the Glass Fish (*Ambassis*) which the Durbarsaheb Ala khacher had kept in his aquarium for me. On the seacoast, marine Turtles, mostly Ridleys were a common sight, although some eggs were taken by fisher folk and many often dug up and devoured by jackals. Watching Turtles come out from the sea to lay eggs was great fun on moonlit nights at high tide. The months of May to July were the best. On the kathiawar seaboard, many beaches were protected as temple areas and no fishing or exploiting of marine resources was allowed. These were the sanctuaries where I saw most marine animal life

and sea birds. On certain coasts, Hyaenas lived in caves which were full of bats. I have seen myriads of bats emerging from caves and holes on the south-east coast of Kathiawar. Hyaenas also lived in stone quarries in company of porcupines and it was amusing to watch these animals in full moonlight.

The entire belt of the Little Rann of Kutch from Kharaghoda on the east to Morvi-Maliya on the west had thousands of Indian Wild Asses. These hardy animals could stand drought living in the hottest and driest parts of Kathiawar. They were safe from predators although occasionally a stray leopard or some wolves would take a few solitary animals. None shot them as big game, although the flesh is known to be excellent. Chasing of these animals from cars was a common practice and became a regular practice later for those taking photographs. On the rann border and in the *Capparis* studded grasslands in Dhrangadhra, as well as in cotton fields, the great Indian bustard could be easily seen and near Halvad, the Brahmins afforded much protection to Blackbuck, Chinkara and Nilgai. Similarly, typical Antelope habitats contained bustards in Okhamandal, the Panchal in the central Kathiawar plateau where the last of the Indian Cheetahs were killed, and in practically all low grassland hills. The game position was so bountiful that one could come across any of the big game anywhere in Kathiawar except the Asiatic Lion, and Deer.

While out small game shooting with R. K. Chandrabhanusinhji in the grass hills of Wankaner we suddenly came upon a panther, a lucky one that escaped as we had no rifle at the time. The Wankaner hills were noted for their grasslands where lesser florican, partridges, peafowl, and rain quails were seen in abundance not to mention chinkara, nilgai, and panther. The similar Rajkot terrain was also

good but game was much persecuted there. I have seen great Indian bustard from the train near Wadhwan, and on the way to Jasdan and Dwarka. I found that the noise of the train did not disturb the birds if they were 100 yards or more from the railway line. In fact the bustard was found in small numbers everywhere except in the steep hill forest ranges. Trapping and snaring of small game was under control except for the ubiquitous Hare which still is persecuted by one and all meat-eating people of Kathiawar. Princes were not really interested in shooting the great Indian bustard but did so sometimes. Although muzzle-loaders were quite common amongst rural people, most of these arms were used to scare animals and birds off crop fields but poachers did misuse them occasionally. A landlord would also shoot Antelope, Gazelle and small game on his land, more for the taste of it than for sport.

The farming during the monsoon consisted chiefly of cereals, such as Millet and Milo often mixed with leguminous plants, and linseed, chilli, onions, lucerne, sugar cane and cotton. Ground nut farming was increasing rapidly. During the forties, the Bhavnagar ruler who had an establishment for hunting with hawks and falcons and African Cheetahs as a hereditary sport found the feeding of hawks a problem, and therefore got Punjab experts to catch and train Common grey Quails as 'callers' so as to attract the migratory birds to alight on certain fields where they were netted. These quails were captured to feed the hawks. Later, as the quails were so good eating, they were captured in greater quantity and fattened during the season. In the trapping operations, Harriers were a great nuisance as these hawks followed the quail migration and were caught in the nets often breaking them. They also disturbed the quails before netting, but since much of the netting



took place before dawn, the harriers did not always intervene. During this period October to early December, I came across Hen Harriers which are seldom seen now. In the netting, partridges and florican also got caught but were released. Netting of house crows and house pigeons was done to supply meat to the Falconry Units. This was a period when Raptors were seen in abundance, and one would often see waves of Harriers, Kestrels, Eagles, Laggar falcons and quite a number of Peregrine falcons on the seacoast from October to December. Sakers were also regularly seen in the more arid areas. The White-Eyed Buzzard was the most abundant bird of prey seen sitting on telegraph poles and one could count it by the dozen in any train or motor journey in Kathiawar. The Redheaded Merlin though uncommon was seen in every countryside. Kestrels arrived by the hundred but the Black-winged Kite was not seen so frequently as the other raptors nor the Shahin Falcons. The Tawny and Bonelli's Eagles bred often close to towns, the latter even on old Palaces, but it preferred the more hilly areas, where game was more plentiful.

At Rozy near Jamnagar Port, the Maharaja Ranjitsinhji had created a small game preserve in which large number of grey and painted partridges had been introduced for organized Game Shoots. Later chital were introduced and are protected till this day by the present Jam Saheb. As artificial breeding of game birds was not done in India, huge number of netted birds were released in this small preserve with hares. In the early thirties, I remember attending the grand Rozy shoot when crates of game birds had been emptied previous to the coming Silver Jubilee of the Maharaja Jam Saheb on 2nd April 1932. The chances of running out of cartridges was the risk one took, as it was the case in some of

the big duck shoots although many princes supplied cartridges to guests who often fired away at birds out of range or peppered the beaters with lead to the embarrassment of the host. At the grand Rozy shoot the great Ranji happened to be walking without his gun next to me, and applauding a good shot to encourage me as I was the youngest sportsmen in the party. What amazed me was that, in this seaside preserve, the bag consisted of Chukor and Black Partridges which are not found in Kathiawar. Ranji used to have a lorry full of grain which went round the roads for feeding the game and I witnessed a sight which I had never seen before, for when this truck went round it honked and partridges and hares would run to the road to be fed as a spray of grains fell on the road like drops of water from a road watering truck. He also had men with guns shooting vermin day and night. The abundance of blackbuck and chinkara and small game in Nawanagar State was incredible. In any direction from Jamnagar except towards the sea, one could see any number of these Antilopinae. Those were the days when one got trigger-happy shooting small and big game alike.

I shot my first Leopard at Kileshwar in the Jamnagar Barda Hills sitting next to Ranji and his nephews. A trained dog seemed to be following the panther closely almost at its heels which seemed extraordinarily unusual. This dog was an expert in flushing the panther from his lair and was the key agent in most of these shikar hunts. (It reminded me of the pied pariah dog of Ranbag (Mahuva) which chased and halted wild boar by fixing its teeth on the scrotum after they had been missed by shooters from Machans so that they could be despatched by the axe later.) No sooner had I shot the panther, the dog retreated and a beater ran in with an axe to give the spotted

cat its final blow. It was an amazingly well organized show and Ranji himself a very keen Panther hunter knew much about the habits of the species and how to beat it. The panther, was found in most of the forest and scrub areas of Kathiawar although it had been over shot during the early century but was now rapidly coming back. The Panther was a game which was seldom shot except by Princes and their guests. The Gir forest had some very large specimens reaching eight feet. (between pgs). The panther population in the Gir was evidently larger than that of the lion. And many panthers were shot during the late thirties in all parts of Kathiawar. Some were even killed in desert and fields by villagers, as the species had multiplied in its habitat beyond carrying capacity.

In the Gir forest, lions were judiciously protected by the Nawab of Junagadh with the result that the population soon began to increase when British Dewans, Sir Patrick Cadell and G. E. Monteath were administrators. The Nawab never was keen on lion shoots but there was a constant demand from Princes and guests to shoot lions. Most of these requests were turned down. In 1929 special permission was granted to Mr. Arthur Vernay, a vice-patron of the *BNHS*, to collect a pair for the American Museum of Natural History, New York. As the population of lions was increasing rapidly, Princes and Viceroys of India were invited for shoots. And the walls of the Hunting Lodge or Camp at Sasangir were fully studded with photographs of VIPs standing over dead lions with a retinue of aides, and shikaries. My brother was invited to shoot a lion but when the photographer was called to take a photograph of the lion and the group, he ordered that all rifles should be taken away for the photograph as the lion shot from the machan was not an act of bravery and an easy

animal to bag but he appreciated the invitation of the Nawab Saheb to shoot a lion. This was partly in token of a loyal officer of the Bhavnagar State Lancers Colonel Sardarsingh who had been loaned to the Nawab and had rendered faithful service to the Nawab and to whom was conferred the title of *Tazmi-Sardar*. During those years, the Nawab's hospitality was lavish and he considered our family as brothers allowing us to meet the Begum and Rani sahebs who were under strict purdah.

When the Junagadh Gir lions had increased beyond their carrying capacity and wandered into neighbouring states, the adjoining states took advantage and shot lions almost indiscriminately. This was most humiliating to the Junagadh ruler but nothing could be done as the 'nomad' lions killed cattle outside his territory and the Nawab Saheb was not ready to pay compensation owing to state rights and lack of proper evidence. Many of the states in Kathiawar were paying tribute to the Nawab in cash, as a settlement of olden times, through British guarantee. A very interesting event happened when I was in Junagadh Gir. Two well-known Princes were invited in the early forties to shoot a lion each at the same time. After the senior ruler had shot his lion, he insisted on watching the lion shoot of his brother prince from another machan. When he saw that the lion beaten out was larger than what he had shot, he promptly intervened by firing at him, killing him dead, before he reached the machan of his younger friend. This created dissatisfaction, to say the least and the younger prince then asked the Nawab to allow him to shoot two lions which permission was given after the elder prince had left.

The game position in the gir was excellent. Wild Boar specially, were seen in huge sounders and were swarming in the forest but chital were mostly found in fair numbers in the Jam-

wala forest division of the gir. The Sambar and Nilgai being common. I have seen Four-horned antelopes in groups of 4 and 5. And as cars were seldom allowed on forest roads all game animals allowed close approach, standing motionless or crossing the roadside to see what a car looked like. The wild boar developed huge tusks living alongside with lions and panthers and showed defiance when approached on foot. Nilgai were found in all thorn forests of Kathiawar and were the least molested creating havoc to crops as did the wild boar. A defiant Blue Bull was killed by a Railway engine near port Albert Victor (B.S.).

In the thirties, I know of no game species which may have been considered as endangered. The lion was the only rare species threatened with extinction in Asia, or rather India but this carnivore was increasing rapidly. A lion reserve at Mytiala (Bhavnagar State) had been created to extend the range of the lion and in which later discreet shooting of lions was done. The great Indian bustard which doubtless was restricted to certain habitats and localities was not persecuted, and could be considered uncommon and yet where it occurred it could always be seen easily even at close quarters. Since the species does not breed rapidly laying one egg and maturity taking some years, the increase is very slow. The Grey Hornbill of the gir forest was killed surreptitiously for its medicinal value and there is no doubt that it was rare in the gir forest at the time. The population of sambar and wild boar was nearing saturation point in the Girnar hills and increasing rapidly in gir hills and since serious working of forest had not begun, the vegetation in both areas was dense and conducive to the safety of game species: A sort of wilderness area full of malaria and small pox. In all areas of Kathiawar religious sites,

be they Hindu or Moslem, afforded special protection to wildlife including marine life, and freshwater animals. Such areas were conspicuous for holding game species and respected as sanctuaries by the princes and people alike. The Gir forest, a sanctum sanctorum, yet had more game close to the temples of Kunkeshwari, Banej, Kamleshwar, and Tulsishyam. Hundreds of temple sites strewn all over the province preserved wildlife, including crocodiles. Thus these religious enclaves served as wildlife sanctuaries and were a great asset. At Sandhida Mahadeo near Sanosra, some 34 miles from Bhavnagar, blackbuck were tame enough to drink from the temple '*kund*' (water-hole) and the bucks were seen to sleep on their sides and turn over on their back in front of the temple. Dr. S. Dillon Ripley II, the famous American Ornithologist, was amazed to see such a sight when he was my guest in the forties. At this time a project to ring Lesser Florican in Bhavnagar State was launched to study migration. Near Mithi Vidi, a freshwater pool on the seashore off Trapaj contained a huge Marsh crocodile which was worshipped by the local villagers as a Goddess, (Matajee) and people bathed in the pool unmolested, a sight I can never forget. The Vala Rajputs near Mahuva, considered blackbuck sacred on their lands, and the antelope enjoyed complete safety until one police officer abrogated it for supplying meat to sailors. Similarly the Muli Prince did not kill the grey partridge in his state since one of his ancestors had given refuge to a wounded bird in his battle tent. The Peafowl was always venerated by the Hindus and enjoyed full protection by the people as did the immense population of the blue rock pigeon. Both these species therefore became overabundant causing considerable nuisance to farmers. House pigeons were frequently preyed upon by house cats and by practically all

birds of prey. Yet the numbers never seemed to have diminished. Shooting of pigeons was not permitted and people did not shoot doves as a sport. Both species were very common, and still are. The panther took advantage of the abundance of peafowl in forest areas and also the jungle cats. The Langur Monkey found in the Gir and Girnar forests was fully controlled by panthers and was uncommon.

Soon after World War II broke out, the position of wildlife did not take such a drastic change as in some other parts of India where Military were given 'carte blanche' to shoot wild game, since most of the Kathiawar peninsula was under Princely rule. During the war period, wildlife in general was still increasing and as there was strict rationing of petrol, people had less time to drive about after game. Princely shoots nevertheless continued and much entertainment to the services personnel was extended. Most of the big game shooting was directed on antelope and gazelle and wild boar, and the big cats. The grow-more-food campaign, restricted the widespread growing of ground nut as a cash crop, millets were encouraged and thus during the autumn, large number of Eastern Common Crane were seen on the coastal areas, whereas Demoiselle crane which feeds largely on left over ground nut and grass seeds was seen in central Kathiawar in good numbers. The former crane arrived earlier in east Kathiawar but the latter were the first to arrive in the Bhal sometimes as early as August. During the war period, lions and panthers had increased with an abundance of natural prey. Near the cultivated tracts, the panther fed much upon domestic animals but as peafowl, hare, chinkara and wild boar were common, this feline did prey on them: The village pariah dog was always a choice food for the panther though it usually preferred

goat meat. Wolves were not really rare but seldom encountered.

What was interesting to note during the thirties and forties was that farming had not reached high intensity and chasing of wounded antelope and chasing wild boar in the open fields was possible with motor cars. At Mahuva, for instance we captured a white Indian antelope, a mutant which breeds true, by tiring the animal down in stages by chasing over rough flat country, an impossibility now under present farming and soil conservation methods. A small herd of white blackbuck had already been formed in captivity and was doing very well at Bhavnagar. In Victoria Park, Bhavnagar, chital were reintroduced and now had large herds, and a variety of game species, such as wild boar, chinkara, blackbuck, nilgai, and the introduced, Hog Deer and red spurfowl which were seen breeding. Small game was plentiful. At Jamnagar, Rozy Preserve, Chital were doing very well and the African Guinea fowl also in the Nawanagar Barda hills. The entire Barda hills, contained some Sambar, Chital, Wildboar, Nilgai, and Leopard which had shown increase. I have seen half dozen panthers in one evening drive there. Crocodiles were found in the tanks and in Okhamandal also. Drought was always a problem in Kathiawar, and therefore, irrigation tanks and wells were being made in increasing numbers. By the end of the forties, innumerable tanks with irrigation canals were seen with the result that there was a greater distribution of water and consequently an increase in waterfowl throughout the peninsula.

A drastic change in wildlife conditions was seen at the dawn of Independence when severe famine threatened the people and gave way for indiscriminate killing of wildlife, mostly the abundant game species. Any holder of

arms could kill game and the shikar administration of the Princes came to a sudden halt although certain exclusive rights of shooting were given to the Princes. The Bhavnagar ruler in particular did not much care for these rights as the rights of protecting wildlife and its habitat had been taken over by the Saurashtra State forest department. With the end of Princely rule one saw the tragic commencement of the destruction of big and small game species. Moreover, the establishment of the Military station at Dhrangadhra was a great blow to wildlife, as army personnel hunted game freely and the great Indian bustard was much endangered.

In Saurashtra, the Chief Minister ordered game animals to be shot at sight in fields. Restrictions on arms was relaxed and the so-called criminal nomadic tribes killed game indiscriminately. Some of these tribes were rehabilitated in central Kathiawar plateau where game had been strictly preserved with the result that it was soon depleted. Notwithstanding, it was after Independence that important dams on the rivers, Shetrunji, Bhader, Machoo, Sasoi and some smaller rivers were constructed and this enabled a more perennial source of water for industrial towns, and irrigated a considerable command area of agricultural land through canals. Cement and tar roads for bus services were made and villages were well connected by this service. Saurashtra as the State Union was known became a land of lakes and roads. It already had a network of Railways. This improvement in wet land, enabled a large number of water birds to breed and the fish supply attracted an enormous number of fish-eating birds, from pelicans to the smallest terns and kingfishers. Marsh areas increased and water fowl of many species bred. The Spotbill duck and Comb ducks were increasingly seen and frequent sightings of Cot-

ton Teal were recorded. In contrast denudation of forest had begun under scientific working plans specially in the Gir and Girnar forests whereas the Barda and Shetrunjaya hill ranges were being cut heavily with the result that forest cover and its wildlife was being reduced rapidly. Babul and Bamboo and clear felling of teak and mixed deciduous trees caused forests to be opened out on a large scale. Thus the 1950-60 period was the most critical for forest and wildlife. And yet until 1955 the lion population had been increasing. In 1950, the first lion census was conducted under the guidance of Mr. Wynter Blyth a very competent naturalist. The trend of lion increase was noted until the second census in 1955, at which time lion poisoning had just commenced. When the Lion Show, for tourists commenced during Bilingual Bombay state, lion poisoning by Gir maldharies increased and the lion population was on the decrease. The lion census of 1963 was suspect for the lion population had by then somewhat crashed. Earlier widespread poaching in the Gir forest was seen and dacoits had made their home in the forests with the result that Police were swarming over the forests, often poaching game. This decade (1950-60) was perhaps the worst for wildlife of Kathiawar. Between the two lions censuses in the fifties, the game position in the Gir forest had slowly deteriorated and the Grey Hornbill seemed to have become extinct. The redeeming factor was creation of the new wildlife legislation based on the Bombay Wild Animals & Birds Protection Act, 1951 under which a State Wildlife Advisory Board was formed. The Gir forest was not declared a sanctuary but for a small scrub forest known as the Deolia Sanctuary. Lions were shot by special invitees of the Rajpramukh of Saurashtra with a quota of two per year. Some very fine maned lions were bagged each year. On one occasion

the increased annual quota of four lions was exceeded and six lions, all good males were shot by various Princes. The shooting of a few lions had no significance to the growing lion population although the best breeding specimens were those that were killed. From 1959 onwards no permission was given to shoot lions and this continued when the Gujarat state was formed. Everywhere wild boar and ungulates were slowly being reduced by poachers including some ex-princes and landlords and also government officers. Any one who possessed a licensed arm and ate meat shot game and clandestine game markets were opened in some small towns. Despite this sad situation, there still existed big game, small herds of blackbuck, chinkara, nilgai scattered all over Saurashtra but the wild boar was much reduced. And the widespread *Opuntia* Cacti which gave it protection had been wiped out almost completely in Kathiawar. Thus a sizable cover for wild boar and small game was lost. Leopards, however, were fairly frequent in the hill ranges. During these years, intensive farming had begun. Ground nut was being planted on a larger scale and many vegetables such as onions and chillies were grown extensively everywhere, with the result that milo and millets were grown in smaller quantity. Rice was grown during good monsoons and sugar cane was spreading with the irrigated Tank and Well systems.

In the sixties, a drastic change in Kathiawar wildlife was to be seen. All big game species were reduced, specially wild boar, nilgai, blackbuck and chinkara and even panther populations outside Gir forest. The Barda and Shetrunjaya hills were much denuded and game ungulates and their predators practically wiped out. Habitat destruction in fallow and marginal land had grown: The low thorn bush was being removed everywhere for making

hedges for protecting irrigated farms with the result that partridge, hare and bush-quail which nested in such cover were seeking refuge in farms and had little chance to breed in their restricted natural habitats. Sandgrouse particularly were menaced by nomadic tribes who killed incubating game birds. The 'Dafers' who possessed illegal guns swept over the peninsula killing game and selling meat. No action was taken against this community and it still continues its nefarious poaching. The Green Pigeon in Eastern Kathiawar so common in Mango and Fici groves was poached and with the denudation of the Sihor hills Forest, which apart from the miscellaneous trees had a pure forest of *Acacia senegal* which produces gum of medicinal value and the finest white honey in Kathiawar, (A similar forest existed in Wankaner state) the birds were easily shot. The Green Pigeons of the Gir were being poached for the same medicinal purpose as the grey hornbill but since the "Harial" pigeon population was so large it had little effect. More serious was the cutting down of trees which opened the forest considerably. Undergrowth in which small and big game took refuge was removed by forest contractors and poaching of game was rampant. The Girnar was overcut as were the outer hills with the result that Sambar were easily poached. Large scale illicit cutting of forest in Gir compelled the Forest department to mobilise a special squad to deal with this menace. During drought years, large number of domestic animals from other parts of Gujarat entered the Gir forest causing serious disturbance to its ecosystem. The Maldharies also were moved to lop and cut trees to feed their animals. By the end of the sixties the wildlife position in Kathiawar was grave. Grocodiles had been reduced drastically and endangered. With intensive farming came the widespread use of pes-

ticides and insecticides and birds of prey commenced to be affected seriously. Although lion poisoning had been controlled, animal life which ingested poisoned or partly poisoned food was eventually being reduced. Migratory birds of prey, Harriers, kestrels, and eagles and falcons were not seen in the same number during migration. Resident raptors doubtless were much diminished and I saw some being electrocuted by alighting on high voltage pylons. Ground nesting birds were menaced either by roaming cattle or by pilferers of eggs. Predators were able to find nests much more easily owing to lack of natural nesting cover. Civet cats succumbed to poisoned food as did many raptors such as the common White-Eyed Buzzard, Tawny Eagle, and Laggar falcons. Denudation of typical grassland-scrub in hill areas also affected the Short-toed and Bonelli's Eagles.

The situation in the seventies for wild life seemed dismal with the paucity of birds of prey, and birds in general were not seen in the hordes as in the past. The Monitor lizard and snakes so commonly seen everywhere now were less seen except in the semi desert and arid areas. There was, no doubt, a growing change in the increase of waterfowl, for, during good rainfall, most wet lands had enough water and cover for birds to breed. The increase in sighting of Cotton Teal and Ducks such as Spotbills and Nuktas was a sign of progress. Spoonbills, and a variety of herons bred in urban areas and the little brown crane had much extended its range in the widespread marsh habitat. The Sasan-Gir Forest Ecological Study team consisting of young foreign biologists studied conservation and grazing problems of the Gir forest in interest of serving the Asiatic Lion. A Gir Sanctuary Project had been started and measures to demarcate the lion habitat and give fuller

protection to it was launched. A rubble wall with live hedges was constructed on the vital periphery of the forest at a high cost so as to prevent indiscriminate grazing in the Gir Lion Sanctuary; later a National Park area was established where no cutting or grazing of cattle was permitted and a scheme to rehabilitate the innumerable 'Maldhari' hamlets outside the main Gir forest was underway. Unfortunately, drought years intervened, and the rehabilitation program had to go slow. Wildlife Department in the form of a Wildlife Wing within the Forest Department was created and this setup, helped the forest ungulates to recoup in the Gir forest. So satisfying was the progress that in 1974-75, the Gir National Park-cum-Sanctuary was awarded the Trophy for the best managed wildlife reserve in India. The Lion Censuses of 1968 had shown a decrease in the lion population but in 1974 it had reached to 180 lions. Owing to Revenue forest on the Gir periphery having been thinned or plowed for agriculture the lion habitat had further shrunk. And yet Chital population had shown an increase and the wild boar population which had crashed was soon coming back. Blackbuck had been seriously depleted throughout Kathiawar and yet, in the Velavadar Sanctuary for Blackbuck, the herds had grown until in 1975 a cyclone destroyed nearly a thousand. A Census taken in 1976 gave a total of 1676 animals. A National Park for the Indian Antelope was established and a Lodge for visitors is being built. The adjoining Mithapur grassland is now under the plow and has reduced Blackbuck habitat. Moreover, the invasion of *Prosopis juliflora* endangers the grassland so vital to the blackbuck. *Prosopis juliflora* in Kathiawar is now conspicuous everywhere. With it, the stone curlew and small game is seen in fair number. The population of chinkara was so depleted that it has be-

come a rare animal and this also applies to wild boar and even nilgai.

The Nal Sarowar, the largest 'Jheel' in Kathiawar near Limbdi turns saline towards the dry season and often goes bone dry in the hot weather. This open shallow sheet of water is a sanctuary in which water fowl are constantly disturbed by poachers who live in villages on its periphery. These people are professional netters and snarers and are difficult to control as their livelihood depends upon poaching. The dual administration between the Forest and Tourist departments is wholly inadequate and the Watch Tower for birdwatchers is designed against all principles of watching birds at the waterside despite the advice from experts. And yet, the Nal Sarowar an ideal waterfowl refuge is a popular holiday resort for the Ahmedabad city folk. The best time to see Nal sarowar is in March when water recedes and water birds of many kinds are in full plumage for their return migration. But one hardly gets a close view of the birds owing to constant human disturbance.

On the Kathiawar Seaboard, innumerable salt works now line the shore and these semi saline compartments have attracted countless waders and we now see Common Shelducks formerly so rare. Flamingos of both species, large and small, forage in the compartments with many waders, gulls and terns and one often sees Pelicans. These graceful flyers usually visit many of the larger drying tanks in early summer. In rivers and tanks, fish have been much depleted. Most tanks have small fish with the result that, the Large Cormorant, Fishing Eagles, River and Blackbellied Terns are infrequent whereas little Terns so seldom seen in the past are seen throughout Kathiawar, breeding in salt works and tanks. Crocodiles have disappeared except at Kamleshwar tank in the Gir and in a few remote water

courses. Near Sasangir, a Crocodile Breeding Project has been commenced. There are a few temple areas where blackbuck and nilgai are preserved owing to religious sentiments. Small game close to towns has been much reduced by poaching and the Military Stations at Jamnagar and Dhrangadhra have caused most game to disappear in the nearby areas. The total ban on hunting has not been a solution to the widespread poaching by nomads and hunters who are bent on killing game.

Although, there is now more understanding amongst citizens that wildlife preservation and photography holds more importance than killing wildlife, the people who kill game for meat are still at large and the Forest-cum-Wildlife Department is unable to control this menace. There is no dedicated wildlife service in the state department specially with the transference of officers whose main duties are in forestry. An additional Chief Conservator of Forests for Wildlife (G.S.) is now appointed and matters stand at that. Nevertheless, more sanctuaries are being planned. The so called Sanctuary for the Indian Wild Ass in the Little Rann of Kutch is so large and its components so diverse and scattered that it is like a jig-saw-puzzle and, the boundaries are so interspersed with crop land and salt works that it makes enforcement of regulations a difficult problem. The last Wild Ass Census 1976 showed a population of about 720 animals in comparison with the thousands I have seen in the thirties and forties. No one seems to really know how the animals vanished so rapidly unless perhaps by epidemic disease. An aerial census in 1969 merely conveyed a number less than 400 animals although a small herd had migrated to the Nal Sarowar and stray animals are sometimes seen there.

When I surveyed typical habitats of the great Indian bustard in 1970-71 for the World



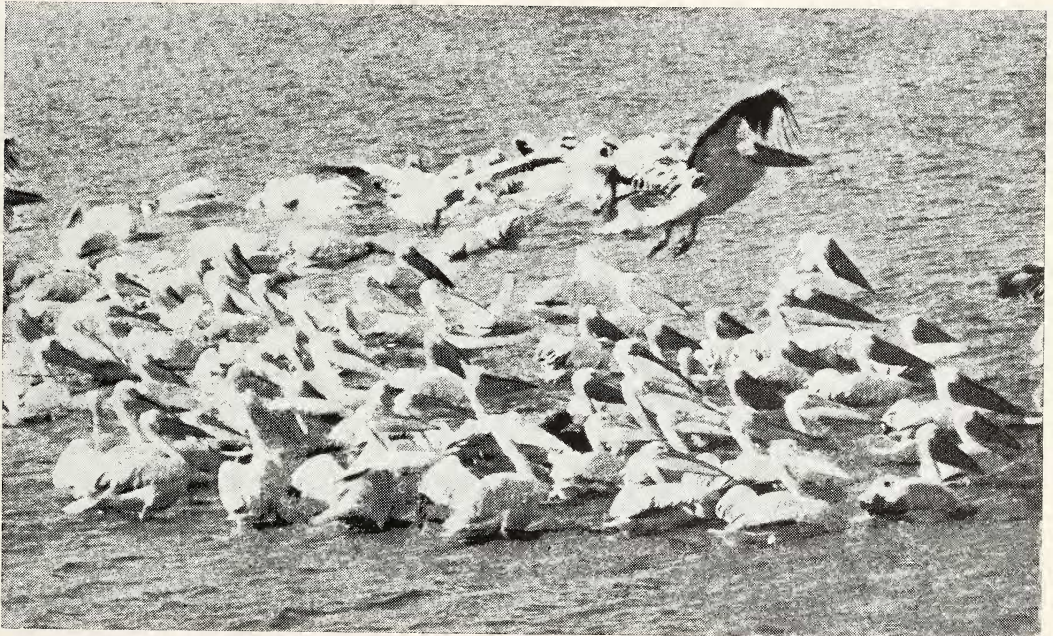
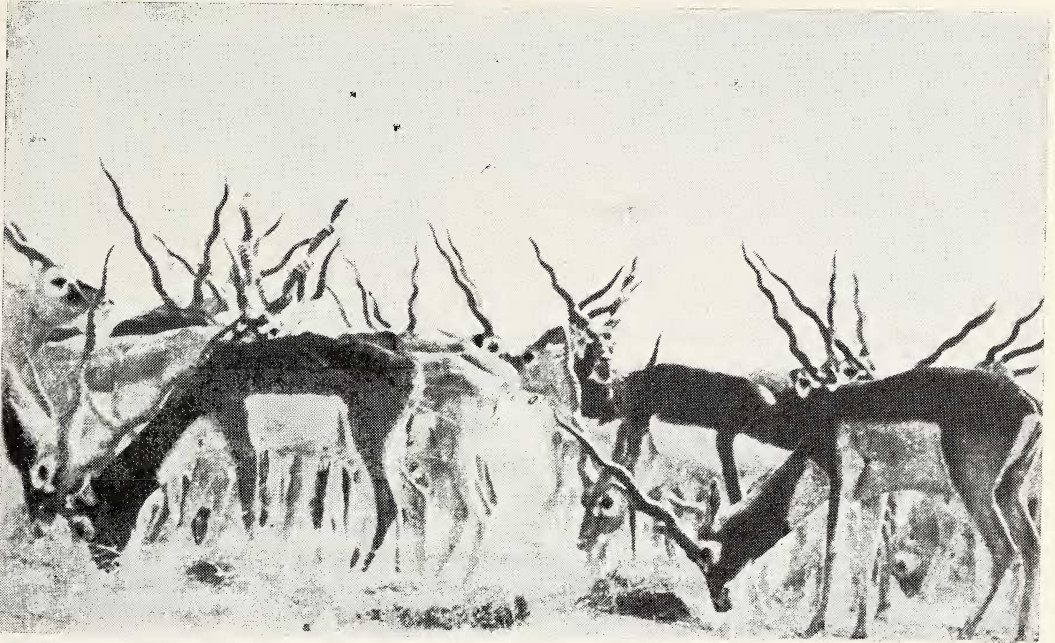
Wildlife Fund, I was struck by the paucity of antelope and gazelle in those ideal biotopes and as for the bustard it had become very rare. The last stronghold of this species in Kathiawar appears to be in the Jamnagar District close to Okhamandal, where the staunch Iyer community allows no trespassing on their lands and the birds seem to realise this protection where they are undisturbed. There is also some waste land where birds breed. Scattered birds may be seen in the Panchal plateau and on the Rann border where formerly they were not uncommon. The bird is certainly endangered in Kathiawar where nomadic communities poaching wildlife are at large.

With the establishment of a Wildlife Conservation Society at Bhavnagar, and World Wildlife Fund Nature Clubs for Young Folks, at Rajkot and other places, a new outlook on education and conservation of nature has been started. Nature camps at Hingolghadh near Jasdan have been a great success and it appears that the area will get recognition and protection by government. Much of this credit goes to Sarvashri Shivarajkumar Khacher and Lavkumar Khacher of Jasdan. But these bodies have no right to enforce the laws for the protection of wildlife. The Wildlife (Protection) Act, 1972, is exercised by the Forest Department mostly through its CCF Wildlife and Wing. Nature Clubs of the World Wildlife Fund has central office at Rajkot and this augurs well for the preservation of wildlife.

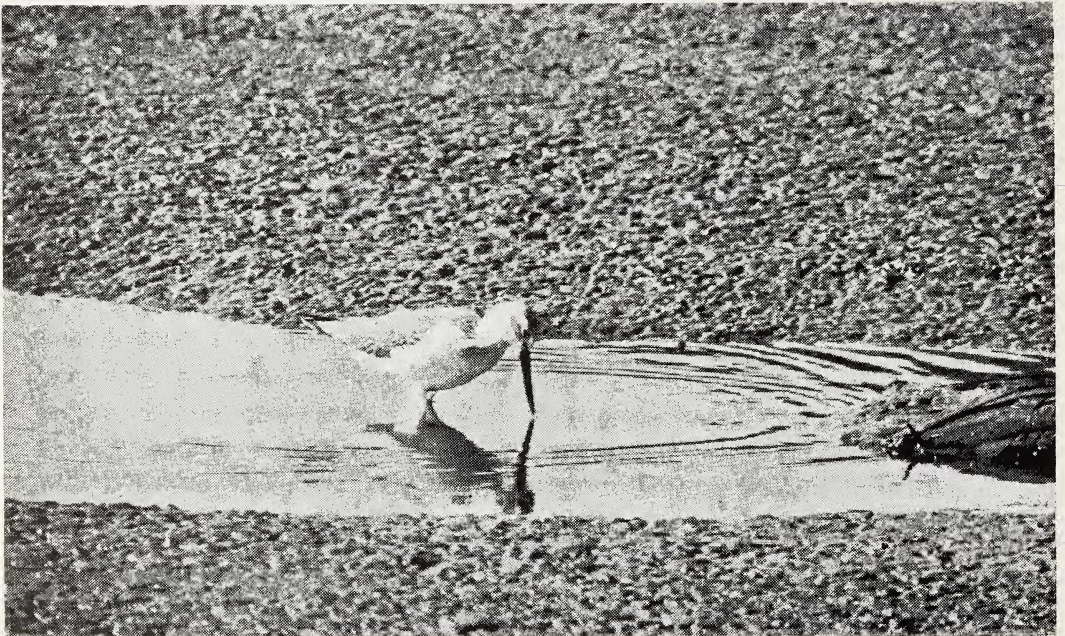
Owing to denudation of most thorn forests and poaching of rare or uncommon animals such as the Pangolin and Ratel these species have become much rarer. These two species were found in many hill areas of Kathiawar; now it appears that their main stronghold is in the Gir and Girnar forests and perhaps Barda hills. Ratel pugmarks are quite commonly observed on dusty roads of the Gir forest. The

Wolf, is now uncommon and even common canidae such as the Indian Fox is much less common. It is much persecuted by tribal hunters. The species endangered consist mostly of Antelope and Gazelle, and the panther is rare except in the Gir forest. Similar is the case of the wild boar. The Blackbuck is doubtless endangered and the great Indian bustard is threatened with extinction. The common Painted Sandgrouse so common in the low grass stony hills, is seen in less number except in Gir forest. Local populations of birds such as the Green Fruit Pigeon of eastern Kathiawar is much threatened and any species can now become endangered in areas where its biotope is removed or upset. Even the common Sandgrouse is not found as abundantly in the countryside owing to intensive farming and spoiling of its low stony and marginal breeding habitats and also to direct killing by nomads.

The conspicuous change in the countryside is the intensive farming and with it the large number of tanks and irrigated farms. The spread of *Prosopis juliflora* is something to be wondered at, for large belts of this plant has created impenetrable thickets and is prolific on roadsides. This has solved a problem for supplying fuel and other purpose wood to rural people everywhere. On the coastal belt, it has been planted to stop the spread of desert and sand dunes and acts as a buffer to high winds. It seems to spread rapidly with the movement of domestic livestock. With water conditions being doubtless better than in the past, water birds and birds visiting farmlands are now fairly commonly seen and even nest. Roadside plantations are slowly coming up but the proper drought resisting species or those affording the best shade are not always planted. In the seventies, the position of wildlife is seen in a transitional stage. It is difficult to say which species of wildlife will be seriously



*Above* : Blackbuck in Velavadar Sanctuary (now National Park).  
*Below* : Rcsy Pelicans at Rajawadla Tank (near Jasdan). (Photos : *Author*)



*Above : Crab Plovers at Ghogha spithead (Gulf of Cambay).  
Below : Greenshank feeding. (Photos : Author)*